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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,052	09/28/2005	Manabu Iwamoto	590157-2023	5681

7590 04/06/2007
Matthew K Ryan
Frommer Lawrence & Haug
745 Fifth Avenue
New York, NY 10151

EXAMINER

NGUYEN, THINH H

ART UNIT	PAPER NUMBER
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2861

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/543,052		IWAMOTO ET AL.	
	Examiner		Art Unit	
	Thinh H. Nguyen		2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/11/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 16-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 16-22, the preamble does not set forth a statutory or positively recited the intended method claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 11-12, 16-19 are rejected under 35 U.S.C. § 102(b) as being anticipated by prior art of record to Suzuki. (U.S.6,530,519)

Re claims 11-12, 16-19, with reference to col. 6, lines 29-53; col.10, lines 27-36, lines 44-56, Suzuki discloses the instant claimed ink residue calculating system comprising, in a system where the ink residue is calculated by obtaining ink discharge discharged from an ink container on the basis of the working time of an ink supply pump which sucks ink from the ink container and discharges the same and the ink discharge per unit working time of the ink supply pump or on the basis of the number of rotations

of a drive motor of the ink supply pump and the ink discharge of the ink supply pump per unit rotation of the drive motor and cumulatively subtracting the ink discharge discharged from the ink container from the total ink volume accommodated in the ink container,

an ink kind obtaining means which obtains the kind of the ink, and

an ink residue calculating means which corrects the ink discharge per unit working time of the ink supply pump or the ink discharge of the ink supply pump per unit rotation of the drive motor on the basis of the kind of the ink obtained by the ink kind obtaining means, and calculates the ink residue on the basis of the corrected ink discharge; wherein the kind of the ink represents the viscosity of the ink.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-15, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Kanaya et al. (U.S.6,517,175)

Suzuki discloses elements of the instant claimed subject matter as noted above with the exception of working environmental temperature of the ink parameter as condition to correct ink discharge amount and thereby to calculate the ink residue.

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Kanaya (col.3, lines 35-44) suggests it is preferred that the temperature of the ink enable corrected amount of ink to be calculated by taking into account viscosity of the ink. This arrangement improve the accuracy of monitoring the amount of ink remaining in the reservoir. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the ink condition as suggested by Kanaya in the ink parameter of Suzuki for the purpose of accurately monitoring the amount of the residue ink .

Patent Application Information Retrieval (PAIR)

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Contact Information

7. Any inquiry concerning this communication should be directed to examiner Thinh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, and Thurs from 6:30A – 3:00P. The official fax phone number for the organization is (571) 273-8300. The examiner supervisor, Matthew Luu, can also be reached at (571) 272-7663.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.



Thinh Nguyen
March 26, 2007

**Thinh Nguyen
Primary Examiner
Technology Center 2800**